# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/563,716 | 04/11/2006 | Heinrich Becker | 3724.1004-000 | 1522 |

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HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

| EXAMINER |
|---|
| NWAONICHA, CHUKWUMA O |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1621 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/563,716 | BECKER ET AL. |
| | Examiner | Art Unit | |
| | CHUKWUMA O. NWAONICHA | 1621 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on *11 April 2006*.

2a)☐ This action is **FINAL**.          2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) *22-43* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *22-43* are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

## DETAILED ACTION

### Current Status

1. Claims 22-43 are pending in the application.

### Lack of Unity

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

**Group 1**. Claims 22-25, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 1, classified in class 257, subclass 40+.

**Group 2**. Claims 22-25, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 2, classified in class 257, subclass 40+.

**Group 3**. Claims 22-25, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 3, classified in class 257, subclass 40+.

**Group 4**. Claims 22-25, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 4, classified in class 257, subclass 40+.

**Group 5**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 5, classified in class 257, subclass 40+.

**Group 6**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 6, classified in class 257, subclass 40+.

**Group 7**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 7, classified in class 257, subclass 40+.

**Group 8**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 8, classified in class 257, subclass 40+.

**Group 9**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 9, classified in class 257, subclass 40+.

**Group 10**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 10, classified in class 257, subclass 40+.

**Group 11**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 11, classified in class 257, subclass 40+.

**Group 12**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 12, classified in class 257, subclass 40+.

**Group 13**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 13, classified in class 257, subclass 40+.

**Group 14**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 14, classified in class 257, subclass 40+.

**Group 15**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 15, classified in class 257, subclass 40+.

**Group 16**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 16, classified in class 257, subclass 40+.

**Group 17**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 17, classified in class 257, subclass 40+.

**Group 18**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 18, classified in class 257, subclass 40+.

**Group 19**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 19, classified in class 257, subclass 40+.

**Group 20**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 20, classified in class 257, subclass 40+.

**Group 21**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 21, classified in class 257, subclass 40+.

**Group 22**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 22, classified in class 257, subclass 40+.

**Group 23**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 23, classified in class 257, subclass 40+.

**Group 24**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 24, classified in class 257, subclass 40+.

**Group 25**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 25, classified in class 257, subclass 40+.

**Group 26**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 26, classified in class 257, subclass 40+.

**Group 27**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 27, classified in class 257, subclass 40+.

**Group 28**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 28, classified in class 257, subclass 40+.

**Group 29**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 29, classified in class 257, subclass 40+.

**Group 30**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 30, classified in class 257, subclass 40+.

**Group 31**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 31, classified in class 257, subclass 40+.

**Group 32**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 32, classified in class 257, subclass 40+.

**Group 33**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 33, classified in class 257, subclass 40+.

**Group 34**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 34, classified in class 257, subclass 40+.

**Group 35**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 35, classified in class 257, subclass 40+.

**Group 36**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 36, classified in class 257, subclass 40+.

**Group 37**. Claims 22-24, 26, 29-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 37, classified in class 257, subclass 40+.

**Group 38**. Claims 22-24, 27, 29-37 and 39-43, drawn to a mixture; according to formula 38, classified in class 257, subclass 40+.

**Group 39**. Claims 22-24, 27, 29-37 and 39-43, drawn to a mixture; according to formula 39, classified in class 257, subclass 40+.

**Group 40**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 40, classified in class 257, subclass 40+.

**Group 41**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 41, classified in class 257, subclass 40+.

**Group 42**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable L is P, As, Sb or Bi, and according to formula 42, classified in class 257, subclass 40+.

**Group 43**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 43, classified in class 257, subclass 40+.

**Group 44**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 44, classified in class 257, subclass 40+.

**Group 45**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 45, classified in class 257, subclass 40+.

**Group 46**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 46, classified in class 257, subclass 40+.

**Group 47**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 47, classified in class 257, subclass 40+.

**Group 48**. Claims 22-24, 28-37 and 39-43, drawn to a mixture; wherein the variable M is S, Se or Te, and according to formula 48, classified in class 257, subclass 40+.

**Group 49**. Claim 38, drawn to a compound according to formula 40; wherein the variable L is P, As, Sb or Bi, classified in class 257, subclass 40+.

**Group 50**. Claim 38, drawn to a compound according to formula 41a; wherein the variable L is P, As, Sb or Bi, classified in class 257, subclass 40+.

**Group 51**. Claim 38, drawn to a compound according to formula 42; wherein the variable L is P, As, Sb or Bi, classified in class 257, subclass 40+.

**Group 52**. Claim 38, drawn to a compound according to formula 43; wherein the variable M is S, Se or Te, classified in class 257, subclass 40+.

**Group 53**. Claim 38, drawn to a compound according to formula 44a; wherein the variable M is S, Se or Te, classified in class 257, subclass 40+.

**Group 54**. Claim 38, drawn to a compound according to formula 45; wherein the variable M is S, Se or Te, classified in class 257, subclass 40+.

**Group 55**. Claim 38, drawn to a compound according to formula 46; wherein the variable M is S, Se or Te, classified in class 257, subclass 40+.

**Group 56**. Claim 38, drawn to a compound according to formula 47; wherein the variable M is S, Se or Te, classified in class 257, subclass 40+.

**Group 57**. Claim 38, drawn to a compound according to formula 48; wherein the variable M is S, Se or Te, classified in class 257, subclass 40+.

The inventions listed as Group 1 - Group 57 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:  Groups 1-48 are drawn to mixtures of different compounds while Groups 49-47 are drawn to different compounds.  These fifty seven groups of invention are different from each other, and require different search strategy for each compound.  Therefore, there is no special technical feature for the compounds, the processes of making these compounds or the different fields of application of the compounds.  Also there is no unity of invention.

There is no special technical feature, which unites the groups. But even if there were a special technical feature there must be unity of invention also. Under 37 CFR 1.475

(a)     An international and a national stage application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept ("requirement of unity of invention"). Where a group of inventions is claimed in an application, the requirement of unity of invention shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.

(b)    An international or a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following combinations of categories:

(1)    A product and a process specially adapted for the manufacture of said product; or

(2)    A product and a process of use of said product; or

(3)    A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or

(4)    A process and an apparatus or means specifically designed for carrying out the said process; or

(5)    A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process.

The above groups 1-57 together do not meet the requirement of unity of invention as given above in (1) -(5).

A telephone call was made to Alexander Akhiezer on 08/04/08 to request an oral election to the above restriction requirement, but did not result in an election being made.

**Upon election of a group, Applicant is required to disclose particular specie that represents the elected group for search purposes.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is 571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Daniel Sullivan can be reached on 571-272-0779. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).


/Chukwuma O. Nwaonicha/
Examiner, Art Unit 1621


/Johann R. Richter/

Supervisory Patent Examiner, Art Unit 1616